Unit-II

Sampling- Probability Sampling and Non-Sampling Methods.

Steps of Research

Ethics in conducting and reporting research

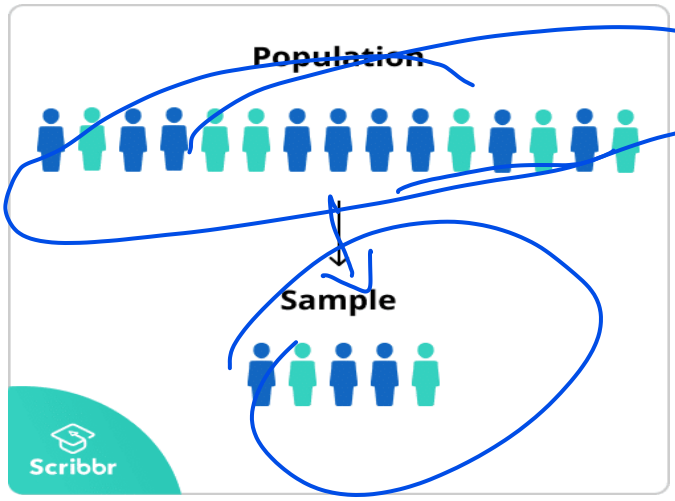
Sampling

Population Vs Sample

Population in research is a complete set of elements that possess a standard parameter between them. Population is well identified and specified group on the basis of some selected measures.

Examples- All Teachers, All house wives, All Psychology students

A sample is a smaller part of the whole, i.e., a subset of the entire population. It is representative of the population in a study. When conducting surveys, the sample is the members of the population who are invited to participate in the survey. Hence said, a sample is a subgroup or subset within the population. This sample can be studied to investigate the characteristics or behaviour of the entire population data.



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SHARE
IT

Note-

- A measure based upon the entire population is called a **parameter**
- A measure based upon the sample is known as a **statistic**

Statistics and parameters are numbers that summarize any measurable characteristic of a sample or a population.

Probability

A probability is **a number that reflects the chance or likelihood that a particular event will occur**. Probabilities can be expressed as proportions that range from 0 to 1, and they can also be expressed as percentages ranging from 0% to 100%

Sampling Methods- It can be categorised into two-

1. Probability Sampling Methods
2. Non-Probability Sampling Methods

Probability Sampling Methods

Probability sampling is based on the fact that every member of a population has a known and equal chance of being selected. For example, if you had a population of 100 people, each person would have odds of 1 out of 100 of being chosen.

The desired conditions for probability sampling Methods-

- ✓ The size of the parent population from which the sample is to be taken must be known to the investigator
- ✓ Each element or individual in the population must have an equal chance of being included in the subsequent sample.
- ✓ The desired sample size must be clearly specified.

Probability Sampling Methods

1. Simple Random sampling
2. Stratified Random Sampling
   a) Proportionate stratified random sampling
   b) Disproportionate stratified random sampling
3. Area or Cluster Sampling

1. Simple Random Sampling

Randomness means that all elements in a given population have an equal and independent chance of being included in the sample. There are methods for random sampling-

- ✓ Fishbowl Draw Method
- ✓ Using Table of Random Numbers
- ✓ Method of computer determined randomness.

2. Stratified Random Sampling

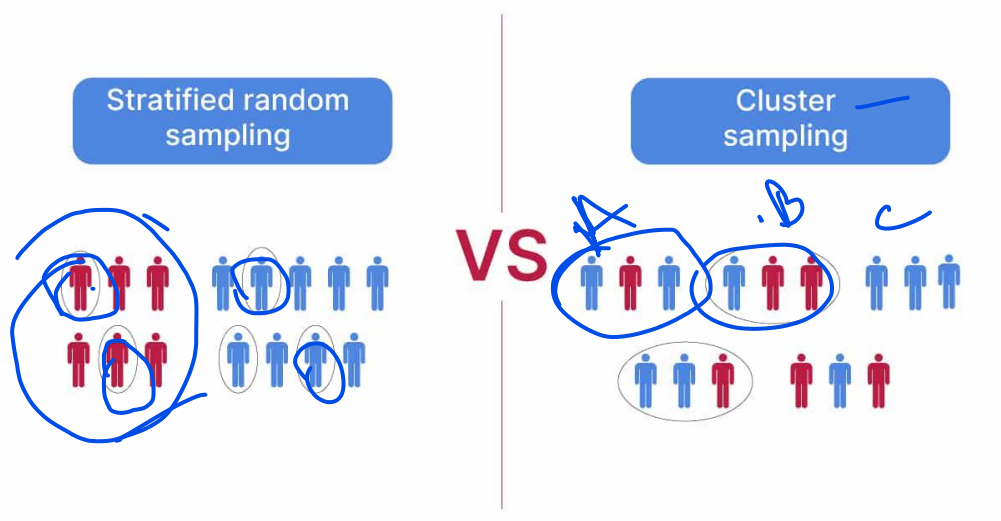
Stratified random sampling is a method of sampling that involves the division of a population into smaller sub-groups known as strata. In stratified random sampling, or stratification, the strata are formed based on members' shared attributes or characteristics such as income or educational attainment.

Stratified random sampling is also called proportional random sampling or quota random sampling.

3. Area or Cluster Sampling

In cluster sampling, researchers divide a population into smaller groups known as clusters**.** They then randomly select among these clusters to form a sample.

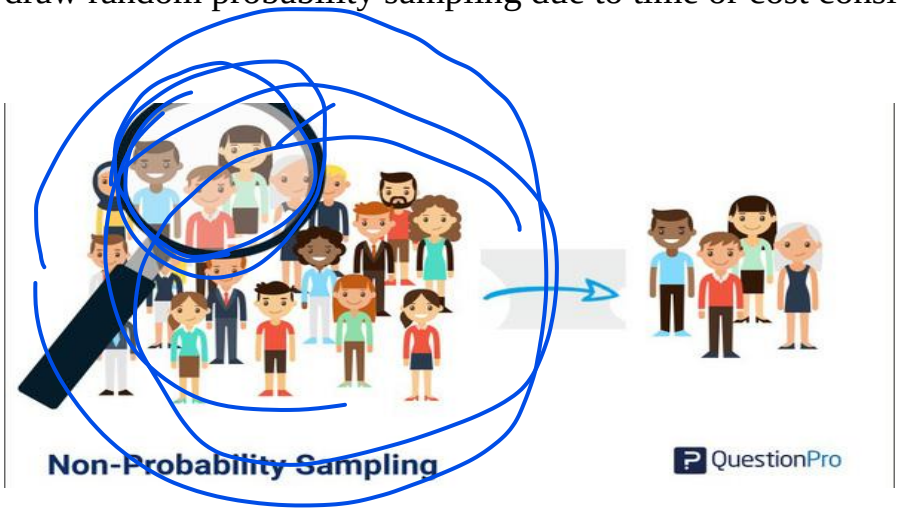
Cluster sampling is a method of probability sampling that is often used to study large populations, particularly those that are widely geographically dispersed. Researchers usually use pre-existing units such as schools or cities as their clusters.



2. Non- Probability Sampling

These are the methods which provide no basis for estimating how closely he characteristics of a sample approximate the parameter of the population from which the sample had been included. Non-probability sampling is defined as a sampling technique in which the researcher selects samples based on the subjective judgment of the researcher rather than random selection. It is a less stringent method. This sampling method depends heavily on the expertise of the researchers. It is carried out by observation, and researchers use it widely for qualitative research.

Non-probability sampling is a sampling method in which not all members of the population have an equal chance of participating in the study, unlike probability sampling. Non-probability sampling is most useful for exploratory studies like a pilot survey (deploying a survey to a smaller sample compared to pre-determined sample size). Researchers use this method in studies where it is impossible to draw random probability sampling due to time or cost considerations.



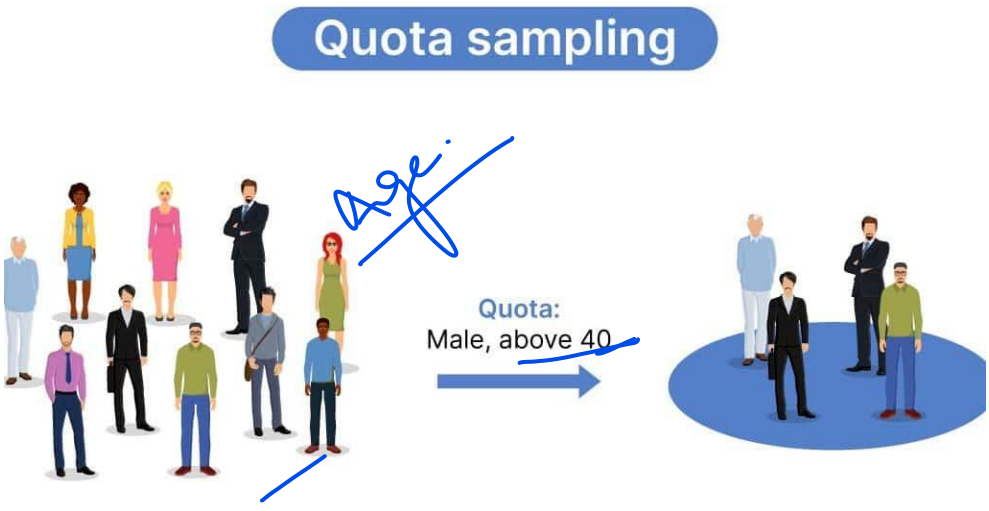
Methods in Non-Probability Sampling

1. Quota Sampling
2. Judgemental or purposive
3. Accidental
4. Snowball

1. Quota Sampling

Quota sampling is one of the important methods in non-probability sampling and it is apparently similar to stratified random sampling.

Example- A researcher wants to study the career goals of male and female employees in an organization. There are 500 employees in the organization, also known as the population. To understand better about a population, the researcher will need only a sample, not the entire population. Further, the researcher is interested in particular strata within the population.



2. Judgmental or Purposive sampling:

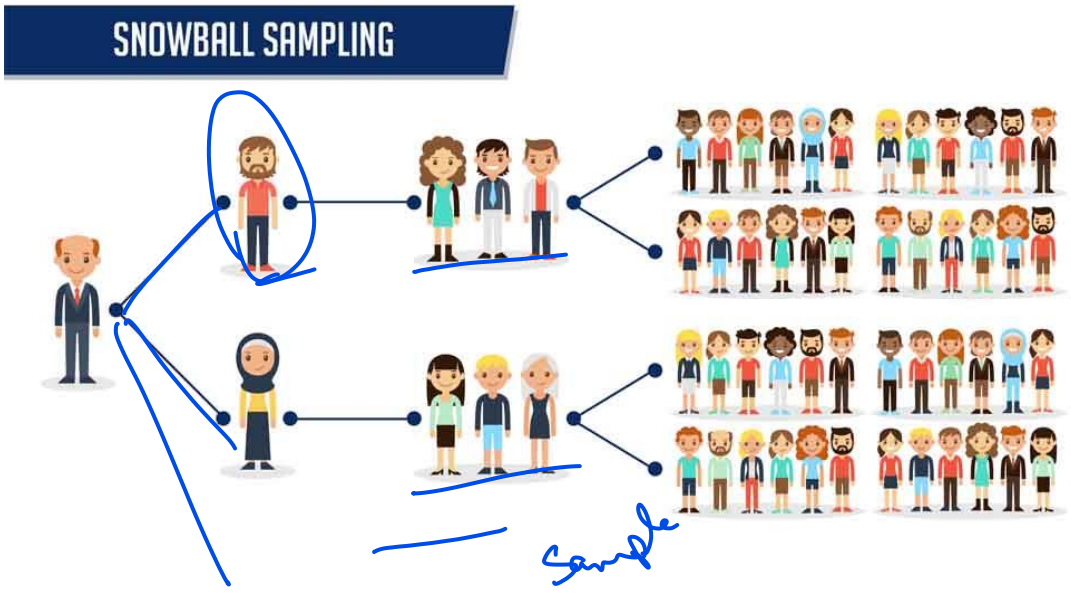
In the judgmental sampling method, researchers select the samples based purely on the researcher's knowledge and credibility. In other words, researchers choose only those people who they deem fit to participate in the research study. Judgmental or purposive sampling is not a scientific method of sampling, and the downside to this sampling technique is that the preconceived notions of a researcher can influence the results. Thus, this research technique involves a high amount of ambiguity.

3. Accidental Sampling

This is also known as incidental sampling. It refers to a sampling procedure in which the investigator selects the person according to his convenience. He does not care about including the people with specific or designated traits.

4. Snowball Sampling

Snowball sampling helps researchers find a sample when they are difficult to locate. Researchers use this technique when the sample size is small and not easily available. This sampling system works like the referral program. Once the researchers find suitable subjects, he asks them for assistance to seek similar subjects to form a considerably good size sample.



Steps of Research

Steps of Research The following order concerning various steps provide a useful procedural guideline regarding research process:

1. Identifying the Research Problem
2. Literature Survey
3. Developing Hypothesis
4. Preparing Research Design
5. Determining Sample Design
6. Collection of Data
7. Execution of Project
8. Analysis of data
9. Hypothesis Testing
10. Generalization and Interpretation
11. Preparation of Report

Steps in Reporting Research

- ✓ Cover page (Title)
- ✓ Abstract
- ✓ Introduction
- ✓ Literature review
- ✓ Rationale of the study
- ✓ Hypothesis
- ✓ Sample
- ✓ Tools used
- ✓ Research Design
- ✓ Method
- ✓ Procedure
- ✓ Result
- ✓ Discussion
- ✓ References
- ✓ Appendices

Ethics in Conducting and Reporting Research

The purpose of the guidelines for research ethics is to provide researchers and the research community with information about recognised norms of research ethics. The guidelines provide guidance and advice. They are intended to help develop ethical discretion and reflection, to clarify ethical dilemmas, and to promote good scientific practice. They are also intended to prevent scientific misconduct. They may be used as tools in the assessment of individual cases, in the planning of a research projects, or when reporting and publishing findings and results.

The guidelines for research ethics are binding on both individuals and institutions. Both researchers and research institutions have independent responsibilities for ensuring that their research is good and responsible. It is important that the institutions clarify their roles and responsibilities for research ethics at every level. All institutions must have procedures for funding, administration and management that ensure that their research complies with recognized ethical norms and guidelines.

Subject Vs Participants- The main difference is that subjects in a study are those who are not volunteer. They have been selected without their consent. Participants are those who are informed about the study and they voluntarily participate in the study.

Institutional Review Board (IRB)

- ✓ To protect the dignity, rights and well-being of the potential research participants.
- ✓ To ensure that universal ethical values and international scientific standards are expressed in terms of local community values and customs.
- ✓ To assist in the development and the education of a research community responsive to local health care requirements.

Informed Consent

Informed Consent, psychologists inform participants about-

(1) **The purpose of the research, expected duration and procedures**;

(2) Their right to decline to participate and to withdraw from the research once participation has begun;

(3) The foreseeable consequences of declining or withdrawing;

(4) Reasonably foreseeable factors that may be expected to influence their willingness to participate such as potential risks, discomfort or adverse effects;
(5) any prospective research benefits;

(6) Limits of confidentiality;

(7) Incentives for participation; and

(8) Whom to contact for questions about the research and research participants' rights. They provide opportunity for the prospective participants to ask questions and receive answers."

Society for research in child development

There are many participants who can't give their consent due to factors like - age, disability, so in these condition additional procedures are applied. SRCD for example follows a set of guidelines that build on and amplify some of the provisions of the code for adults.

Assent

"Assent" is a term used **to express willingness to participate in research by** persons who are by definition too young to give informed consent but who are old enough to understand the proposed research in general, its expected risks and possible benefits, and the activities expected of them as subjects.

Debriefing

Debriefing is the procedure that is conducted in psychological research with human subjects after an experiment or study has been concluded. It involves a structured or semi structured interview between the researcher and the subjects whereby all elements of the study are discussed in detail.

- **Dehoaxing**
  when the purpose and hypothesis of the study is disclosed
- **Desensitizing**
  It is a process of reducing the stress or discomfort felt by the participants during the session.

Confidentiality

Confidentiality pertains to the **treatment of information** that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure.